CEE 360: Structural Engineering, Spring 2026

(Room 1310 Newmark, MWF 10:00-10:50 AM)

Instruction Team

Instructor:	Prof. Eun Jeong Cha	(ejcha@illinois.edu)
TAs:	Bowei Song	(boweis2@illinois.edu)
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Office Hours

Prof. Eun Jeong Cha	WF	11am - 12pm	1310 Newmark
Mr. Bowei Song	M	2pm - 3pm	2109 Newmark
	R	2pm - 3pm	Zoom (see the link below)

https://illinois.zoom.us/j/82867673116?pwd=bIwwtTmKlEXVjXor3zV8wnkF1br7ej.1
Meeting ID: 828 6767 3116
Password: 111222

Course Website   https://canvas.illinois.edu/courses/68143

All documents (lecture notes, homework sets, solutions, announcements) will be posted on the course website. HWs will be submitted through the course website as well. You are encouraged to check the website regularly.

Course Objectives
- Introduce the theory and concepts of Structural Engineering
- Understand how to model real-world situations based on Structural Engineering principles
- Apply problem-solving skills to analyze structures
- Use commercial Structural Analysis software such as SAP2000

Course Prerequisites

TAM 251/ Introductory Solid Mechanics and MATH 241/ Calculus III. Students are expected to be fluent in basic linear algebra and basic differential calculus.

Course Topics

Analysis, behavior, and design of trusses and framed structures under static loads; member forces in trusses, shear and moment diagrams, deflections, stiffness method; computer applications, moment distribution.

Teamwork

CEE 360 seeks to help students develop one of the most highly rated skills among employers, teamwork. Students will form a team of 3 to 4 for the final project. Students are encouraged to study for the homework together and write the computer project with their team. Nevertheless, the homework solutions and in-class exams are individual.

Materials
- **Textbook:** "Structural Analysis" by R. C. Hibbeler, 11th edition, Pearson, ISBN: 9780138026394. **Required book**.
  A fully electronic version of the book is available for purchase at many online bookstores, including: https://www.pearson.com/en-us/subject-catalog/p/structural-analysis/P200000009697.
- *Required:* Any notes or handouts distributed via the course website
- *Recommended:* A scientific calculator and a ruler

Grading Scheme
- *Weights*: 2 Midterms (out of 3 Midterms, the lowest score dropped), 50%; homework (out of 8 hws, the lowest score dropped), 25%; in-class questions (3 lowest scores dropped), 15%; computer project, 10%.
- *Scale*: 96 -100 A+, 92 -96 A, 89 -92 A -, 86 -89 B+, 82 -86 B, 79 -82 B -, 76 -79 C+, 72 -76 C, 69 -72 C -, 66 -69 D+, 62 -66 D, 59 -62 D -, 0 -59 F.
- *Access*: Students may access their individual homework, in-class questions, and test grades from the course website at any time.

Policies
The policies described below aim at providing a positive learning experience to all students registered in this class for this semester.

1. **Attendance in Lectures**
   Attendance and participation in lectures **are required**. A professional behavior is expected. Students are expected to download the lecture notes prior to coming to class. Short problems will be administered throughout the lecture and the responses will be collected using I>clicker.

2. **Homework**
   Homework is posted and collected via course website*.* Also, the solutions will be posted on the course website.
   Students are encouraged to discuss homework problems and solution strategies with their group members. Yet, each student must write their homework solution individually in their own words. Late homework will not be accepted and will result in a zero grade.
   For full credit, the homework must contain an explanation of the solution method using short English phrases and drawings, the calculations given with proper accuracy and correct units, and clearly marked final answer.
   Homework will contribute 25% toward the final grade. We will consider only the 7 best homework grades (out of 8 homework sets).

3. **Exams**
   There will be 3 midterm exams administered in class. All three exams will be administered as a 50-minute closed book and closed note tests. One page of formula sheet will be allowed for each exam. Among the 3 midterms, the lowest score will be dropped and each of the two selected exams will contribute 25% toward the final grade. Exams are individual and cooperation is not allowed.

4. **Computer Project**

There will be a computer project that will provide the opportunity to use industrial software to analyze real case situations. The project will be collaborative and students will form a team of 3 to 4. More details on the project will be provided in class later into the semester. The project will account of 15% of the final grade.

5. **I>clickers**
   I>clickers will be used in each class to enhance the learning experience. All but the 3 lowest grades will contribute to the final course grade with a relative proportion of 10%. Instruction for the registration will be posted under the Organization and Help section.
   The use of I-clickers should be strictly individual and any instance of a student using a remote that is not theirs or a student receiving credit for a class they missed will be considered cheating and further disciplinary action will be pursued. More information on the I-clicker policy is given on the course website.

6. **Excused Absences**
   Attendance to all lectures is mandatory in this class during the course of this semester. Should a student be unable to attend a lecture for an unforeseen circumstance, they should contact Prof. Cha (ejcha@illinois.edu) ahead of time and provide a justification letter. In turn, their absence will be considered an excused absence and they will receive an exemption for the in-class questions. Acceptable unexpected circumstances include sickness, death and sickness in the family, conferences and conventions organized by major CEE-affiliated or TAM-affiliated institutions and professional societies. However, if a student does not reach out to the instructor or the TA beforehand, their unexcused absence will result in zero grades for the in-class questions. Similarly, unexcused absences to midterm exams will result in a zero grade. We encourage students to plan their schedule ahead of time.

7. **Academic Honesty**
   Academic integrity is expected; it is the responsibility of the student to refrain from such infractions as cheating, fabrication, and plagiarism in any aspect of the course. The definitions of, and university policies on, academic integrity are explained in Article 1, Part 4 of the Illinois student code (https://studentcode.illinois.edu/article1/part4/1-401/). Any suspicion of plagiarism and cheating will be investigated by contacting the student and sending a report to the Department and the College of Engineering via the Faculty Academic Integrity Reporting (F. A. I. R.) system. In addition, should the allegation be verified, further disciplinary action will be pursued. This applies to all the metrics of performance employed in this class during the course of the semester: exams, homework, project and I-clickers.
   Bringing a fellow student's I>clicker to class is considered to be cheating and a violation of the University Honor Code. In any instance of a student caught with a remote other than their own or receiving votes in a class that they did not attend, the student will forfeit all clicker points and will be reported to the Department and College via the Faculty Academic Integrity Report system where disciplinary action will be pursued to the maximum extent.
   All questions of academic integrity will be will be handled through the established college of engineering procedure (FAIR system), which follows the student code. Please note the Illinois CEE honor code pledge: *I pledge to uphold the highest levels of professional and personal integrity in all of my actions, including 1) never assisting or receiving unfair assistance during exams, 2) never assisting or receiving assistance on class assignments beyond that specified by an instructor, and 3) always fully contributing to group activities that are part of a course activity.*